UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *11 June 2008*.
2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1,3-12 and 14-19* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1,3-12 and 14-19* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on *30 December 2005* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☒ All   b) ☐ Some * c) ☐ None of:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
        obviousness or nonobviousness.

3.   Claim(s) 1, 2, 5, 6, 7, 10-12, 14-19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Weiler et al (U.S. Patent No. 5,970,395) and in view of Randall et al

(U.S. Patent No. 5,589,833).

With respect to claim 1:

        Weiler discloses a high-frequency interference signals measuring system (see

abstract) for measuring a radiation frequency of portable computer (15 of fig.4) i.e.

device under test, comprising a central monitoring unit (5 of fig.5) (i.e. measuring-device

unit) and at least one high-frequency module (3A to 3N) (i.e. plurality of receiver unit)

and each receiver unit (i.e. each high-frequency module) is placed separately from the

central monitoring unit (5) (i.e. measuring-device unit) and each high-frequency receiver

module comprises bus transmitting unit (19 of fig.5) which is connected to the

monitoring unit (5) via digital data bus (4 of fig.5) (i.e. digital interface) for transmitting

data from the central monitoring unit (5) to the receiver (3A...3N) (i.e. at least one of the

high frequency module) (see abstract, fig. 4-5,col.3 lines 5-9 , col.3 lines 56-67 and

col.4 lines10-32); and processed or scanned input data (24 of fig.5) in the central

monitoring unit (5) (i.e. measuring-device unit) and form a bit stream (digital form) for

transmission via data bus (4)(see fig.4,5 and col. col.4 lines 53-67) to the high

frequency module (3) for subsequently forwarded to the device under test (15 of fig.4)

(see fig.4, 5 and col.4 lines 53-67,col.5 lines 10-32, col.6 lines23-33). Weiler also

disclosed the first high frequency module to comprise a transmitter device (col.4, lines

10-13) and at least a second high frequency module comprises a receiver configured to

communicate with the device under test (col.4, lines 10-13).

But Weiler failed to disclose explicitly manually input into the measuring device

unit and processing input data including symbol to state I-Q (inphase and quadrature

phase) level in the measuring device unit. However, Randall et al teaches radar data

acquisition system (same field of endeavor) wherein acquisition system comprising

computer system, digital intermediate frequency processor, DSP, antenna , separate

transmitter/receiver module (115,120 of fig.2) and electronics circuit module (245 of

fig.4) includes display and keyboard (i.e. measuring device) wherein electronics circuit

module (245) further comprising digital IF processor (304 of fig.3) for processing input IF

signal and assigning symbol to state I-Q signal components (see fig, 3,4 and col.5

lines 14-50);

Randall et al further teaches electronics circuit module (245) further comprising

DSP(328) wherein user can customize/debug high speed signal processing tasks by

inputting data via keyboard (i.e. user can input data manually to the measuring device)

based on radar data installation demands (see fig.2,3,4,5(step 540),6 and col.5 lines

61-67,col.6 lines 38-54, col.11 lines 14-23). Therefore, it would have been obvious to

one of ordinary skill in the art at the time the invention was made to modify the high

frequency signal measurement system comprises device under test (computer), a

central monitoring unit (i.e. measuring-device unit) and at least one high-frequency

module which is separated from the central monitoring unit and connected to the

monitoring unit via digital data bus (as taught by Weiler) by substituting measuring

device with electronics circuit module (245) comprising digital IF processor (304 of fig.3)

for processing input IF signal and assigning symbol to state I-Q signal components and

DSP(328) wherein user can customize/debug high speed signal processing tasks by

keyboard (as taught by Randall et al) for improving quality of signal by reducing noise

through proper signal conversion as well as user can customize design data by tuning

input data.

<u>With respect to claims 5 and 6:</u>

Weiler further discloses the high-frequency measuring system used digital

interface is an optical interface and electrical interface (see col.2 lines 33-41).

<u>With respect to claim 7:</u>

Weiler furthermore discloses the high-frequency measuring system comprises

portable computer (15 of fig.4) i.e. device under test [frequency module] wherein

supplying power independently from monitoring unit (5) through power cable (16 of

fig.4) [Moreover, every receiver component essentially provided an electrical energy

through power supply for its operation].

With respect to claim 10:

Weiler further discloses the high-frequency measuring system comprises

receiver unit (3) wherein scanned, evaluated [i.e. received signal standardized in the

frequency scanner to form a digital data for standardized transmitting through digital

data interface] received signal from the antenna for checking the threshold value level

by the frequency scanner (18 of fig.5) and provided data to the bus transmitting unit (19

of fig.5) via digital bus interface (4) to the monitoring unit (5) wherein a level matrix (21

of fig.5), an interference computer (22 of fig.5) and scanning control unit (23 of fig.5)

processed and sampled the data according to the threshold values and calculated the

frequency interference level (see fig.4,5). But Weiler does not disclose explicitly that

received signal converted into the digital data. However, Randall et al teaches radar

data acquisition system (same field of endeavor) wherein acquisition system comprising

computer system, digital intermediate frequency processor, DSP, antenna , separate

transmitter/receiver module (115,120 of fig.2) and electronics circuit module (245 of

fig.4) includes display and keyboard (i.e. measuring device) wherein electronics circuit

module (245) further comprising digital IF processor (304 of fig.3) for processing input IF

signal and assigning symbol to state I-Q signal components (see fig, 3,4 and col.5

lines 14-50).

With respect to claim 11:

Weiler discloses all the limitation except the input data is manually inputted by

any one of operating keys, a rotary knob, or arrow keys. Randall et al further teaches

electronics circuit module (245) further comprising DSP(328) wherein user can

customize/debug high speed signal processing tasks by inputting data via keyboard key

pad (see fig.2) (i.e. user can input data manually to the measuring device) based on

radar data installation demands (see fig.2,(step 540),6 and col.5 lines 61-67,col.6 lines

38-54, col.11 lines 14-23).

With respect to claim 12:

Weiler discloses a high-frequency interference signals measuring system (see

abstract) for measuring a radiation frequency of portable computer (15 of fig.4) i.e.

device under test, comprising a central monitoring unit (5 of fig.5) (i.e. measuring-device

unit) receiving input data from a user computer and high-frequency module (3A to 3N)

(i.e. plurality of receiver unit) and each receiver unit (i.e. each high-frequency module) is

placed separately from the central monitoring unit (5) (i.e. measuring-device unit) and

each high-frequency receiver module comprises bus transmitting unit (19 of fig.5) which

is connected to the monitoring unit (5) via digital data bus (4 of fig.5) (i.e. digital

interface) for transmitting data from the central monitoring unit (5) to the receiver

(3A…3N) (i.e. at least one of the high frequency module) (see abstract, fig. 4-5,col.3

lines 5-9 , col.3 lines 56-67 and col.4 lines10-32); and

wherein a message comprising a high-frequency signal originating from the device

under test (15 of fig.4) is transmitted to the high-frequency module (3A to 3N of fig.4),

the high-frequency signal being processed by the high-frequency module to form a first

bit-stream for transmission via the digital data bus interface (4 of fig.4) to the

measuring-device unit (5 of fig.4) and processed or scanned input data (24 of fig.5) in

the central monitoring unit (5) (i.e. measuring-device unit) and form a bit stream (digital

form) for transmission via data bus (4)(see fig.4,5 and col. col.4 lines 53-67) to the high

frequency module (3) for subsequently forwarded to the device under test (15 of fig.4)

(see fig.4,5 and col.4 lines 53-67,col.5 lines 10-32,col.6 lines 23-33). Weiler also

disclosed the first high frequency module to comprise a transmitter device (col.4, lines

10-13) and at least a second high frequency module comprises a receiver configured to

communicate with the device under test (col.4, lines 10-13).

But Weiler failed to disclose explicitly manually input into the measuring device

unit and processing input data including symbol to state I-Q (inphase and quadrature

phase) level in the measuring device unit.

However, Randall et al teaches radar data acquisition system (same field of

endeavor) wherein acquisition system comprising computer system, digital intermediate

frequency processor, DSP, antenna , separate transmitter/receiver module (115,120 of

fig.2) and electronics circuit module (245 of fig.4) includes display and keyboard (i.e.

measuring device) wherein electronics circuit module (245) further comprising digital IF

processor (304 of fig.3) for processing input IF signal and assigning symbol to state I-Q

signal components (see fig, 3,4 and col.5 lines 14-50);

Randall et al further teaches electronics circuit module (245) further comprising

DSP(328) wherein user can customize/debug high speed signal processing tasks by

inputting data via keyboard (i.e. user can input data manually to the measuring device)

based on radar data installation demands (see fig.2,3,4,5(step 540),6 and col.5 lines

61-67,col.6 lines 38-54, col.11 lines 14-23).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the high frequency signal measurement system

comprises device under test (computer), a central monitoring unit (i.e. measuring-device

unit) and at least one high-frequency module which is separated from the central

monitoring unit and connected to the monitoring unit via digital data bus (as taught by

Weiler) by substituting measuring device with electronics circuit module (245)

comprising digital IF processor (304 of fig.3) for processing input IF signal and

assigning symbol to state I-Q signal components and DSP(328) wherein user can

customize/debug high speed signal processing tasks by keyboard (as taught by Randall

et al) for improving quality of signal by reducing noise through proper signal conversion

s well as user can customize design data by tuning input data.

With respect to claims 14 and 15:

Weiler further discloses the high-frequency measuring system comprises

receiver unit (3) wherein scanned, evaluated [i.e. received signal standardized in the

frequency scanner to form a digital data for standardized transmitting through digital

data interface] received signal from the antenna for checking the threshold value level

by the frequency scanner (18 of fig.5) and provided data to the bus transmitting unit (19

of fig.5) via digital bus interface (4) to the monitoring unit (5) wherein a level matrix (21

of fig.5), an interference computer (22 of fig.5) and scanning control unit (23 of fig.5)

processed and sampled the data according to the threshold values and calculated the

frequency interference level (see fig.4,5). But Weiler silent about mixing the high-

frequency signal with a signal generated by a first local oscillator. However, Randall et

al further teaches electronics circuit module (245) comprising digital IF processor (304

of fig.3) and mixer (430 of fig.4) for mixing the high-frequency signal with a signal

generated by a first local oscillator (434 of fig.4)(see fig.4 and col.9 lines 9-15); and

intermediate frequency signal is subdivided into an in-phase branch and a quadrature-

phase branch (I-Q) and mixed in the in-phase branch with a signal generated by a local

oscillator (see fig.4).

With respect to claim 16:

Weiler discloses a method for measuring a radiation frequency of portable

computer (15 of fig.4) i.e. device under test, comprising:

receiving input data from a user computer and high-frequency module (3A of fig.4) and

processed data and forming bit stream by the high-frequency module for transmission

via the digital data bus interface (4 of fig.4) to the measuring-device unit (5 of fig.4) and

processed or scanned input data (24 of fig.5) in the central monitoring unit (5) (i.e.

measuring-device unit) and form a bit stream (digital form) for transmission via data bus (4) (see fig.4,5 and col. col.4 lines 53-67) to the high frequency module (3) for subsequently forwarded to the device under test (15 of fig.4) (see fig.4,5 and col.4 lines 53-67,col.5 lines 10-32,col.6 lines 23-33). Weiler also disclosed the first high frequency module to comprise a transmitter device (col.4, lines 10-13) and at least a second high frequency module comprises a receiver configured to communicate with the device under test (col.4, lines 10-13).

But Weiler failed to disclose explicitly manually input data into the measuring device unit and processing input data including symbol to state I-Q (inphase and quadrature phase) level and high frequency module processing high frequency signal to form second bit-stream and digitizing intermediate frequency.

However, Randall et al teaches radar data acquisition system (same field of endeavor) wherein acquisition system comprising computer system, digital intermediate frequency processor, DSP, antenna , separate transmitter/receiver module (115,120 of fig.2) and electronics circuit module (245 of fig.4) includes display and keyboard (i.e. measuring device) wherein electronics circuit module (245) further comprising digital IF processor (304 of fig.3) for processing input intermediate frequency signal into digitized signal and assigning symbol to state I-Q signal components (see fig, 3,4 and col.5 lines 14-50);

Randall et al further teaches electronics circuit module (245) further comprising DSP(328) wherein user can customize/debug high speed signal processing tasks by inputting data via keyboard (i.e. user can input data manually to the measuring device)

based on radar data installation demands and DSP process signal into digital signal for
output to the device via interface (see fig.2,3,4,5(step 540),6 and col.5 lines 61-67,col.6
lines 38-54, col.11 lines 14-23).

Therefore, it would have been obvious to one of ordinary skill in the art at the
time the invention was made to modify the high frequency signal measurement system
comprises device under test (computer), a central monitoring unit (i.e. measuring-device
unit) and at least one high-frequency module which is separated from the central
monitoring unit and connected to the monitoring unit via digital data bus (as taught by
Weiler) by substituting measuring device with electronics circuit module (245)
comprising digital IF processor (304 of fig.3) for processing input IF signal and
assigning symbol to state I-Q signal components and DSP(328) wherein user can
customize/debug high speed signal processing tasks by keyboard (as taught by Randall
et al) for improving quality of signal by reducing noise through proper signal conversion
s well as user can customize design data by tuning input data.

With respect to claim 17:

Weiler further discloses to determine a specific bit sequence to be transmitted to
the computer (15 of fig.4) i.e. device under test (see fig.4).

With respect to claim 18:

Weiler further discloses to generate one or more control signals in the bit

sequence by the scanned controller to control the one high- frequency module (3 of

fig.4) (see fig. 5 and col.5 lines 10-32).

With respect to claim 19:

Weiler discloses all the limitation except the input data is manually inputted by

any one of operating keys, a rotary knob, or arrow keys. Randall et al further teaches

electronics circuit module (245) further comprising DSP(328) wherein user can

customize/debug high speed signal processing tasks by inputting data via keyboard key

pad (see fig.2) (i.e. user can input data manually to the measuring device) based on

radar data installation demands (see fig.2,(step 540),6 and col.5 lines 61-67,col.6 lines

38-54, col.11 lines 14-23).

4.   Claim(s) 3,4,8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Weiler as modified by Randall et al as applied to claim 1 above and further in view

of Agilent PNA Network Analyzers (NPL documents: priority date September 25,2002).

With respect to claims 3, 4, 8 and 9:

Weiler further discloses the high-frequency measuring system comprises

receiver unit (3 of fig.5) is connected with monitor unit (5)(see fig.4-5) [i.e. transmitter

bus unit (19 of fig.5) is connected to the scan input (24 of fig.5) and scanning control

unit (24 of fig.5) further connected to the bus receiver unit (20 of fig.5) via digital data

interface (4 of fig.5) which is serial interface]; and Weiler further discloses multiple

receivers (3A to 3N) are connected to the data bus line (4 of fig. 4) via parallel interface

(see fig.3-4 and col.3 lines 40-47); and transmitter bus unit (19) is connected to the scan

input (24) and scanning control unit (24) is connected to the bus receiver unit (20) via

digital data interface (4 of fig.5).

But Weiler does not disclose explicitly that interface is serial and parallel

(although, it is an obvious for any test measurement/network analyzers ports have been

provided serial or parallel interface).

However, Standard documents of Agilent PNA Network Analyzers (RF and

microwave frequency measurement device wherein high RF frequency, antenna

measurement and frequency calibration performed by network analyzers) teaches

connectivity of network analyzers uses variety (i.e. multiple ports) input/output interfaces

including universal serial bus, LAN and parallel connections; and plurality of ports can

be seen both side of front view of the analyzers are identical; and plurality of different

ports are used in the network analyzers (measurement devices) for digital interface(see

all figures @ page 8 standard features).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the high frequency signal measurement system

comprises a central monitoring unit connected to the high-frequency receiver module

via digital data bus (as taught by Weiler) by substituting measuring device by electronics

circuit module (245) comprising digital IF processor (304 of fig.3) for processing input IF

signal and assigning symbol to state I-Q signal components and DSP(328) wherein

user can customize/debug high speed signal processing tasks by keyboard (as taught

by Randall et al) by further including interface in serial and parallel pattern which are

some identical and some are different ports for using interface as taught by standard

documents of Agilent PNA Network Analyzers to obtain more clear signal, error free to

use probe for connection (since some ports are identical) and good adaptability (using

digital interface) of the measuring devices.

Response to Arguments

5.   Applicant's arguments with respect to claims 1, 12 and 16 have been considered

but are moot in view of the new ground(s) of rejection.

Conclusion

6.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to AJIBOLA AKINYEMI whose telephone number is

(571)270-1846. The examiner can normally be reached on monday- friday (8.30-5pm)

Est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, YUWEN PAN can be reached on (571) 272-7855. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AA
/Yuwen Pan/
Primary Examiner, Art Unit 2618